

In the Claims

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Add new claims 38-52.

38. (new) A local area network comprising:
a plurality of local area network nodes;
an Ethernet switch assembly complying with the IEEE 802.3
standard; and,
communication cabling connecting said plurality of nodes to
said switch assembly for providing data communication;
said Ethernet switch assembly comprising:
line interface circuitry coupling power into the
communication cabling, over pairs used for Ethernet
communications, substantially without interfering with data
communication;
a controller governing the supply of power to at
least some of the plurality of local area network nodes via the
communication cabling; and,
current limiting circuitry connected to the line
interface circuitry and controlling current delivered by the
line interface circuitry into the communication cabling,
wherein said Ethernet switch assembly is operative to
provide at least some power to at least some of said plurality
of nodes via said communication cabling,
said current limiting circuitry being operative to provide
a current limit level for each node.

39. (new) The local area network according to claim 38, wherein the current limiting circuitry also comprises current sensing circuitry operative to perform current sensing for each wire pair within the communication cabling.

40. (new) The local area network according to claim 38, wherein the current limiting circuitry also comprises maximum current level management circuitry operative to maintain at least one maximum current threshold level.

41. (new) The local area network according to claim 40, wherein said at least one maximum current threshold level is fixed.

42. (new) The local area network according to claim 40, wherein said at least one maximum current threshold level is system-controlled.

43. (new) The local area network according to claim 40, wherein the controller is operative to perform status reporting.

44. (new) The local area network according to claim 43, wherein the status reporting comprises reporting on power consumed by each channel within the communication cabling.

45. (new) The local area network according to claim 43, wherein the status reporting comprises reporting on channel failures.

46. (new) The local area network according to claim 40, and also comprising a management station wherein activation status of individual nodes can be programmed by a network administrator providing suitable commands via said management station.

47. (new) The local area network according to claim 40, and operative to disconnect faulty nodes.

48. (new) The local area network according to claim 38, and also comprising a management unit via which minimum and maximum current threshold reference levels of power supplied to at least one of the nodes are set.

49. (new) The local area network according to claim 38, wherein an LAN protocol is defined over the network, the LAN protocol comprising an IEEE 802.3 protocol operating at 10 Mbps and wherein said Ethernet switch assembly is 10BaseT compatible.

50. (new) The local area network according to claim 38, wherein an LAN protocol is defined over the network, the LAN protocol comprising an IEEE 802.3 protocol operating at 100 Mbps and wherein said Ethernet switch assembly is 100BaseT compatible.

51. (new) The local area network according to claim 38, wherein an LAN protocol is defined over the network, the LAN protocol comprising an IEEE 802.3 protocol operating at 1000 Mbps and wherein said Ethernet switch assembly is 1000BaseT compatible.

52. (new) The local area network according to claim 38, wherein an LAN protocol is defined over the network, the LAN protocol comprising an IEEE 802.3 protocol operating at one of the following bitrates: 10 Mbps, 100 Mbps, and 1000 Mbps; and wherein said Ethernet switch assembly is 10/100/1000 BaseT compatible.